

ABSTRACT OF THE DISCLOSURE

A method and system are provided in which a decision tree-based model ("general model") is scaled down ("trim-down") for a given task. The trim-down model can be adapted for the given task using task specific data. The general model can be based on a hidden markov model (HMM). By allowing a decision tree-based acoustic model ("general model") to be scaled according to the vocabulary of the given task, the general model can be configured dynamically into a trim-down model, which can be used to improve speech recognition performance and reduce system resource utilization. Furthermore, the trim-down model can be adapted/adjusted according to task specific data, e.g., task vocabulary, model size, or other like task specific data.